

$$\text{Investment per line} = \$225 + \$261,871/\text{Line size of switch}$$

The underlying BCPM questionnaire responses show a significant and disturbing variation from company to company on the purchase price of switches. For example, ten switches -- each with approximately 8,000 lines -- were shown by the study to range in cost per line from \$129 to \$822.

The Hatfield Model employs switching cost averages from the Northern Business Information (NBI) publication, "U.S. Central Office Equipment Market: 1995 Database," in conjunction with public data from the ARMIS 43-07 and the USF NOI data request (1993 data). The per-line switch investment is then adjusted to remove trunk port investment. The resultant cost curve produces a per-line cost of approximately \$75 for a large switch (80,000 lines).

#### ***Analysis and Recommendation***

The two switching cost curves result in dramatically different per-line costs for a large switch: Hatfield asserts \$75, and BCPM asserts approximately \$225. State staff's preliminary analysis indicates that the BCPM data would yield much different results -- in the range of \$100 to \$150 per line -- were it not for a small number of extreme outliers. The Commission and its staff are urged to perform additional analyses and attempt to obtain more reliable switch vendor information to refine this model input. There may be public sources, such as depreciation filings for large LECs and RUS loan applications for small LECs, which offer an alternative source for switch costs. However, if these sources prove unreliable the State staff recommends that the FCC attempt to obtain more direct and reliable switch vendor information. Much of this information is being reviewed (although often under seal, subject to non-disclosure agreements) as part of state interconnection proceedings. While such a process is cumbersome, it may be the only way the FCC can verify the switching cost estimates in the public record.

## **APPENDIX C**

### **LEVEL OF SUPPORT**

#### **A. Aggregation Level**

The models use Census Block Groups (CBGs) to estimate the cost of providing service. A wire center -- the traditional area in which service is provided and rates are set -- may contain one or many CBGs. In a few rare instances, a CBG may contain more than one wire center. In determining the level of support paid to a carrier, one must select the level of disaggregation to be used. Currently, support is paid on the basis of a study area -- a carrier's statewide service area. The two most prominent proposals are to disaggregate the supported area either to a wire center or to a CBG level.

Proponents of CBG disaggregation argue that the support should be targeted to a small geographic area such as a CBG, or in some instances to a subset of a CBG. Disaggregation to the CBG level would allow more specific targeting of support to truly high cost households and businesses. New competitors would not be required to adopt the incumbents' wire center boundaries in order to receive support.

Proponents of wire center aggregation assert that the wire center is a more logical minimum unit of geographic disaggregation because it is more comparable to the exchange level at which local rates are typically calculated. The wire center approach tends to reduce the overall service cost by averaging CBGs assigned to a particular wire center. The excessive granularity of a CBG may overstate and misrepresent the cost to serve customers by failing to reflect the economies of scale and scope of the wire center network.<sup>33</sup> In addition, it is more administratively complex for the carriers and administrator to identify customers by CBG, a unit of geography unfamiliar to the industry.

#### ***Analysis and Recommendation***

The State staff recommends that the Commission adopt an interstate plan that aggregates support calculations on a wire center basis. We recognize that the public switched network is structured around wire centers, and there is an extensive level of resource sharing among the individual CBGs. We believe determining the support at the wire center level will reflect more of the economies of scope of the current network.

#### **B. Density Groups**

Based on the model results thus far, the State staff is concerned that an inordinate amount of support appears targeted toward high density urban areas. In our continuing review of the models we will try to determine the causes for this outcome. We realize that this result may be inherent in any model that assumes a scorched node. Depending on the specific model chosen, we believe that it may be necessary to limit support to such areas. We plan to address this issue further in our subsequent report on proxy models.

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<sup>33</sup> Feb. 19 Economics and Technology, Inc. ex parte.

### **C. Benchmark Selection**

The Recommended Decision supported a nationwide average revenue-based benchmark, while recognizing that in the future a nationwide average revenue benchmark may not be appropriate due to the changing marketplace. Subsequent review has increased concerns regarding the use of a nationwide revenue benchmark. The revenue included in the revenue benchmark will change as companies respond to competitors by offering packaged services. As competition drives prices downward, revenue could be eroded and companies may seek to lower the revenue benchmark to recover those lost revenues from the universal service fund. We believe further consideration should be given to a cost-based benchmark.

The State staff will make a recommendation on the appropriate benchmark when it recommends a proxy model.